

PLD DEVICE REPRESENTATION WITH FACTORED REPEATABLE TILES

ABSTRACT

Structures and methods of representing programmable PLD hardware tiles including common routing resources common to all of the hardware tiles and unique logic resources unique to each hardware tile. A software representation of the programmable hardware tiles includes a common software tile including a description of the common routing resources, and, for each hardware tile, a unique software tile including a description of the unique logic resources included in the hardware tile. The common software tile has first terminals for coupling an instance of the common software tile to other instances of the common software tile, and also has second terminals. The unique software tile includes terminals for coupling the unique software tile to the second terminals of an instance of the common software tile. The software representation can also include a PLD device model that utilizes a uniform numbering scheme based on numbered instances of the common software tile.